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# Vancouver Pilot Meeting:

## *UCSF Pilot Fitness Study*

Division of Occupational  
Medicine, Department of  
Medicine

**Robert Kosnik, MD, DIH, FRCPC**  
*Medical Director, UCSF Occupational  
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December 7, 2010

# My background

- Full time practice of Occupational Medicine for over 25 years
- Specialist in Occupational Medicine in both the United States and Canada
- Associate Clinical Professor of Medicine, Division of Occupational and Environmental Medicine, School of Medicine, University of California San Francisco
- Consultant in many industry sectors with a focus on fitness to work at hire and following the onset of a medical condition and on how people do their jobs

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# Relevant Experience

- **Regulated Transportation**
  - Regulated examinations for railway, commercial drivers, and merchant mariners
  - Performed regulated medical examinations including Marine Medical Exams in the late 1990s in the Great Lakes Region
- **Establishing Policy and Regulations**
  - worked with Transport Canada to get the Canadian Medical Association (CMA) to support drug testing where there was a bona fide safety sensitive tasks in 1992
  - member, International Labour Organization – Expert Committee establishing the Code of Practice for Medical Disability , 2001
  - Chair, Employment Accessibility – Standards Development Committee of the Ontario Ministry of Community and Social Services, 2008
  - Member, Canadian Standards Association – Health Care Facilities, in development, 2011

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# Approach

- Review of the available information on the history of standards for mariners
- Review of the international agencies – ILO, IMO, WHO
- Review of the international standards for mariners – USA, UK, Canada, Australia
- Review of the other regulated transportation in the US – FAA, FRA, FMCSA

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# Sources of Information

- Review of the medical literature
- Review of the guidelines from international and national authorities
- Observe a pilot on a run
- Interview the current physicians appointed to perform the examinations
- Held a series of workshop meetings with the Pilot Fitness Committee, BOPC

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# Difficulties with Medical Surveillance for Pilots

- There are no medical surveillance guidelines specifically for pilots. The existing guidelines were developed cascading from international agencies focusing on all merchant mariners, not just pilots.
- There is the perception that medical examinations are a predictor of future health. Rather, they should be used to consider past medical conditions and their current impact of fitness for duty.
- There is a snap shot nature to the examination. This can lead to gaps in the certainty of fitness for duty when medical conditions start / change.

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# Medical Surveillance: Program Criteria

1. **Select a qualified medical examiner (education, training, experience)**
2. **Understand the demands of the job**
3. **Review the relevant information on current medical conditions and medications**
4. **Perform an examination to focusing on particular functional capacities**
5. **Evaluate the individual periodically and post event**
6. **Provide a review process (to support both the pilot & examiner)**

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# Pilots are Different from “Mariners”

- Pilots are a separate occupational group sufficiently unique within the merchant mariner group to require a separate approach.
- Pilots are performing a “hands on” job in a isolated and perhaps remote work setting.
- Embarkation / disembarkation a Jacob’s ladder requires pilots to have physical capacities and have a sense of relative motion.
- Navigating and berthing requires cognitive function for situational awareness.

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# Limitations of Current System

- There are no medical qualifications for the examining physician in the US Coast Guard medical evaluation process.
- The medical examinations are performed by clinic based physicians. It is not possible to fully appreciate the job requirements (physical / cognitive) from an office.
- Only using annual medical examinations creates a gap when there are changes in medical conditions or medications
- There is a lack of cognitive function testing for situational awareness and relative motion. It needs to be validated, and reliable at the time of testing and when applied in a series.
- It is difficult to appreciate how cognition is impacted by medication.

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# Medical Surveillance Program:

## 1. *Qualifications for Medical Examiner*

- Licensed physician
- At least 5 years of experience in general occupational medicine or maritime occupational medicine
- Ideally has accompanied a pilot on at least one trip (or equivalent experience)
- Familiar with NVIC standards and forms

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# Medical Surveillance Program:

## ***2. Understand the demands of the Job***

- **Understanding**

- *Ideally accompany a pilot on a run*
- *Provided with video and photos*

- **Testing**

- *Add agility testing to evaluate climbing, balance, cardiovascular capacity (broadly)*

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# Medical Surveillance Program:

## ***3. Relevant list -conditions & medications***

- Annual submission and attestation on completion of the Coast Guard 719K form.

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# Medical Surveillance Program:

## ***4. Perform the focused examination***

- Complete the revised (2010) CG 719K form for medical examination with the use of the verifying physician

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# Medical Surveillance Program:

## ***5. Annual and post event evaluation***

- **Begins – entry into training, issuance of a new license**
- **Annually – in training or renewal of licence**
- **Between annual examinations – updated fitness for duty status after the following:**
  - *Addition or change in a prescription medication*
  - *Onset of a new medical condition*
  - *Change in a current medical condition*
  - *Return to duty following a medical disability over 30 days.*

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# Medical Surveillance Program:

## ***6. Review to support examiner and pilot***

- **Medical Review Officer**

- *Resource to examining physician*
- *Confirmation of the statement on fitness for duty*
- *Peer Review*
- *Quality Assurance*
- *Knowledgeable resource to the BOPC*
- *Participate as a member of the Appeal Board to review fitness determinations*
- *Regular review of topics of concern – international regs, national regs, research into*

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# Medical Surveillance Program:

## ***6. Review to support examiner and pilot***

- **Medical Review Officer Qualifications**
  - *Licensed by the state medical board*
  - *Board certified in Occupational Medicine*
  - *At least 10 years of experience in occupational medicine*
  - *Ideally, experience with medical examinations on groups of workers*
  - *Accompanied a pilot on at least one trip, or equivalent*

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# Medical Surveillance Program:

## ***6. Review to support examiner and pilot***

- **No medical assessment directed specifically to pilots**
- **Confirmation needed to provide a second review by a qualified physician who develops as the subject matter expert for medical evaluations of pilots.**
- **The MRO function could be performed regionally or nationally by a physician within an appropriate authority**

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# Fitness to Work – Decision Tree

- *Asking physician to perform a traditional examination looking a checklist of function where the MSS evaluation is generally active range of motion –*
- *Function of*
  - Precision of the examination as it relates to the tasks
  - Precision of the description of the tasks
  - Procedures in the employer.

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